# FARM INDEX

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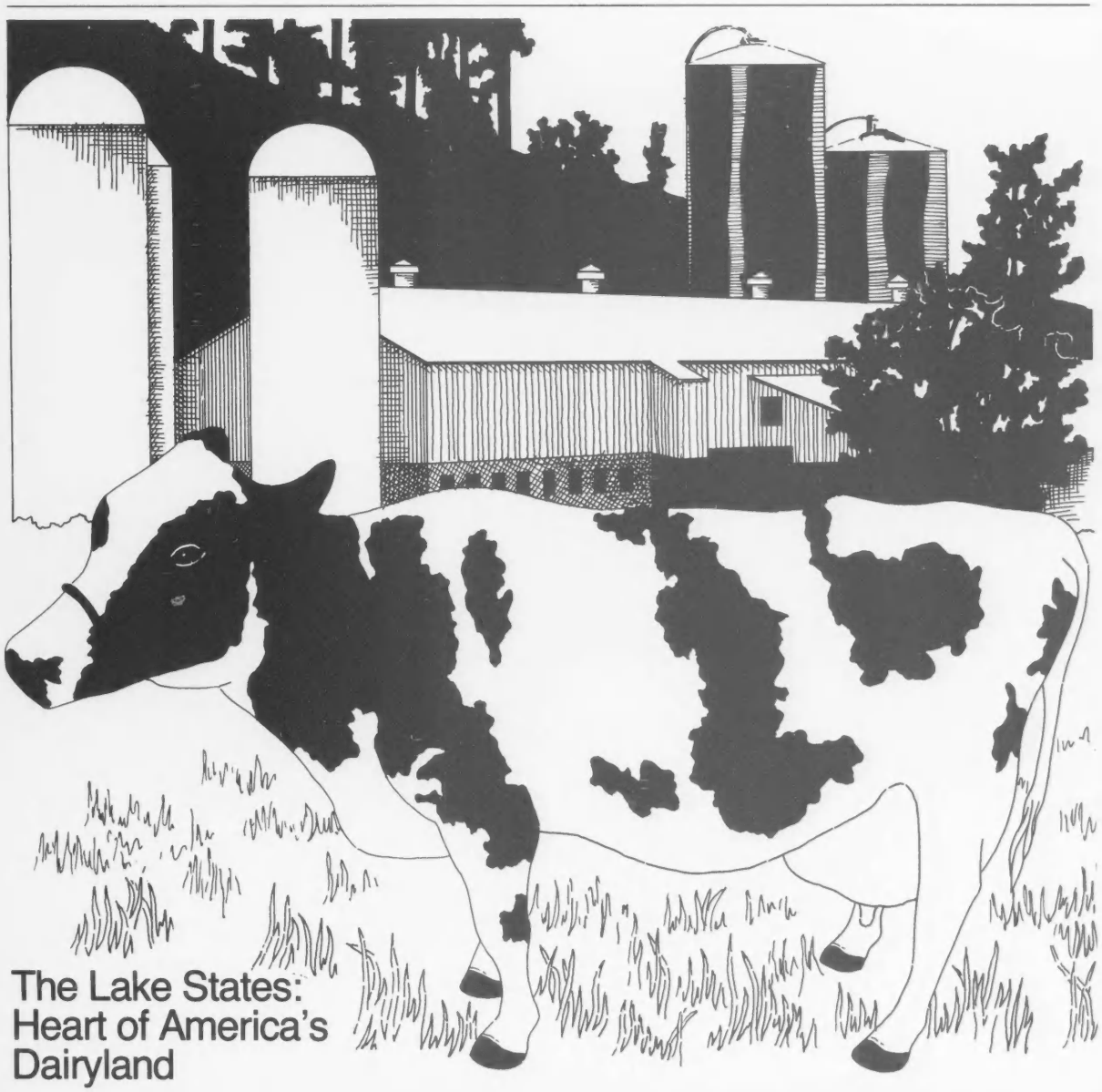


## The Lake States: Heart of America's Dairyland

# Outlook

The year of the hog? Depends on your viewpoint. Pork eaters can expect supplies to swell by as much as a tenth over 1977, and retail prices should nose down . . . maybe 2 to 4 percent. Hog producers will be getting less for their product. ESCS estimates barrow and gilt prices will slump to the mid-$30's for 1978 on the average, versus upwards of $41 per hundredweight last year. Nonetheless, most hog producers will probably show profits in view of the lower prices they're paying for feed grains compared with a year ago at this time.

**Cattlemen could fare better.** Though fed cattle marketings are expected to rise in early 1978—and fed cattle prices to decline a little—the last half of the year should bring growing price strength. For consumers, that means slightly bigger price tags at the checkout counter. For all of 1978, retail prices for Choice beef could average 4-6 percent above last year. Overall, beef production this year will be down a bit. There will be more fed cattle on the market but fewer nonfed steers and heifers and cows.

**Elsewhere on the livestock scene, look for more eggs and broilers this year.** Egg production is forecast 2 to 3 percent higher in the first half compared wtih the 1977 period. By year's end, however, producers will be trimming their flocks. Severe cost-price squeeze seems likely.

Wholesale egg prices will slip this spring, averaging around a dime a dozen under the 58 cents posted in April-June 1977. Prices will probably stay weak through the summer and fall, barring substantial cutbacks in flocks.

**Expansion is the byword for broiler output, too.** Profit-wise, producers had it relatively good in last half 1977, so the mood is bullish for chick placements in the next several months.

Wholesale broiler prices in first half 1978 will remain relatively flat—in the upper-30-cents-a-pound range, down from 42 cents in the 1977 period. Prices may rebound in the summer but recovery will be limited. Expect the usual seasonal weakening in the fourth quarter.

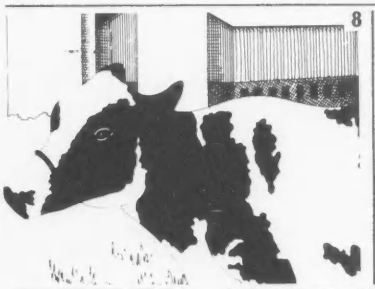
**Lower fertilizer prices?** At worst, prices will steady in 1978 . . . maybe even drop . . . and supplies will be adequate to meet farm needs. Decline in demand, due to fewer acres likely to be planted, will be only partly offset by higher application rates. Nitrogen prices, though, may edge up in the planting season.

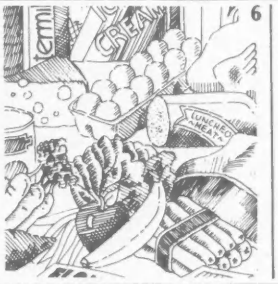
**U.S. farm exports holding their own.** Trade experts predict total value will dip only slightly in fiscal 1978 from the $24 billion exported last year. Volume is slated 10 percent higher but lower prices will hold down total value.

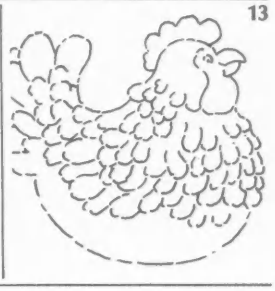
Even with large crop output around the world in 1977—plus nagging recession in many foreign markets—U.S. farm products are in strong demand. Watch how Southern Hemisphere harvests develop this spring; they're a key to the final export tally for U.S. farmers.

In round numbers, U.S. wheat exports in 1977/78 are estimated at 1.1 billion bushels, up from 950 million last season . . . feed grains, up a tenth . . . soybeans, up 8 percent . . . cotton, off a little.

# Contents






## Features


**Food Production: Filling the Hunger Gap?** 4
Despite persistent hunger in some developing nations, food production is sufficient to sate the world's appetite.

**Shaping a New Food Policy** 6
Carol Tucker Foreman, USDA Assistant Secretary, discusses her views on forging a new U. S. food policy.

**The Lake States: Heart of America's Dairyland** 8
This region produces the Nation's top milk output, plus a wide assortment of other agricultural products.

**Bigger and Better Birds** 13
This month's Commodity Profile focuses on the Nation's poultry industry.


## Departments


Outlook 2

Economic Trends 15



Daniel R. Williamson, Editor
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# Food Production: Filling the Hunger Gap?

It's nearly neck and neck in the race between food production and population growth, but food holds a slight edge.

The Malthusian Theory (Thomas Malthus, 18th-century economist) suggests that by this time population should have outrun the food supply, the result being starving people the world over. But that hasn't happened.

Paced by the U.S., the world has managed to boost its food production almost every year since the 1950's. An exception was 1972, when poor weather in many parts of the world at once—an unusual circumstance—pushed down production about 1.5 percent, enough to cause widespread hunger and economic difficulties in some areas that couldn't buy food.

**Progress not foreseen.** Dr. Malthus did not foresee, of course, the tremendous progress that's been made in agriculture; the ability of one farmer in the U.S., for example, to produce enough food for 57 people. Still, food shortages in parts of the world persist, and the Malthusian Theory can be applied in some localities.

The Food and Agriculture Organization (FAO) of the United Nations estimated in 1974 that nearly 500 million people, one-fourth of the population of poor countries (excluding the People's Republic of China), suffer malnutrition. Three-fourths of these people were in Asia.

Although such numbers are mind-boggling, the proportion of hungry people in the world is shrinking. In 1963, FAO had estimated half the world's population was malnourished. Changes in the way estimates are made make such numbers highly speculative, but starvation seems to be less common than it once was.

**Potentially better.** Whether that trend can continue is a tough question. The potential is here for further improvements. A number of studies, including some by USDA, conclude that sufficient natural resources and technology exist to feed the world better. But boosted food production solves only part of the problem.

Two years ago, the U.S. sent shiploads of grains and other food to Bangladesh, which was suffering from widespread food shortages. Much of the food shipped went to waste, rotting on the docks because storage facilities were insufficient. A few years before, similar waste happened in India. Losses of food from spoilage and pests are major problems in many countries.

Technology is a partial answer to the twin problems of food production and storage. But the technology must be appropriate to the economic conditions of the countries that are to use it.

**Close relatives.** In this way, world food problems are closely related to world economic problems. Rapid economic growth is necessary to end malnutrition and starvation, especially in the poor countries. The poorest people in the poor countries are the ones who starve.

But economic and food production problems can't be solved separately. Agriculture is so closely tied to the economies of many nations that neither food production nor economic development can be isolated. Agriculture employs 40-75 percent of the working population in the developing countries (compared with 3 percent of the whole population of the U.S.), so improved employment opportunities must take the farm into account.

Americans are deeply involved in these efforts. The U.S. is the world's largest exporter of agricultural products, and clearly dominates world markets for some of those products. About a fifth of the agricultural products in the world market have roots in the U.S., and a major portion of all exports is food.

In addition, the U.S. ranks among the top five nations importing farm

products. Many of the U.S. imports come from less developed countries, making America a major source of income for them, in addition to economic and technical assistance.

The U.S. has a large share of the world's trained agricultural scientists. Their work is used worldwide, but there are limits to the applicability of our technology.

**The use of labor.** Besides the problem of lack of storage and food protection, technologies that need large capital outlays and make little use of labor don't help many poor countries. In those places, emphasis is on less spending and more employment.

The U.S. can help boost food production, but much of the effort must come from the developing countries.

A lot of unused land is still available for farming in some parts of the world. Some experts say the amount of land for crops could be doubled, but money is needed in addition to the technology. Much of the cash will probably come from private investors—if there's a profit potential—while governments will have responsibilities for development of agricultural research and education.

Sufficient money is essential for successful research and development programs. And, according to a report from the National Academy of Sciences, what's needed to raise the money is "political will"—the concentration of the people on solving the problems of food production.

[Based on the paper, "Population, Food, and Technology," by Joseph W. Willett, Foreign Demand and Competition Division, prepared for the Second Annual Midwestern Conference on Food and Social Policy, Morningside College, Sioux City, Iowa, November 8-10, 1977.]

## Economic Growth: Slower than Normal

Economists say there will be world economic growth in 1978, but at a slower rate than average.

The average economic growth for developed countries may be about the same in 1978 as in 1977, 4.2 percent.

That 4.2-percent average is lower than in other post-recession periods since World War II. During most of those times, growth rates average 4.6 percent for developed countries.

But the subpar 1978 projection needs to be put in perspective, experts say. In the most recent recession, 1973-75, the growth rate averaged 1.7 percent. The world has been tugging and straining to pull out of that recession, and adjustments in individual countries' economies in the past half-decade have been enormous.

For example, the world absorbed very large increases in the prices of certain basic commodities, among them oil and agricultural products. With these large jumps in prices, the flow of cash changed directions—radically, in some cases—so that more money was suddenly flowing into certain nations, such as oil producers, than the world was used to. And more money was flowing out of other countries, such as the Soviet Union, with grain purchases from the U.S.

Meanwhile, the oil imports of most developed countries—the U.S., for instance—have bounced upward severely since 1973.

But generally, the world economy has been able to handle these changes, while at the same time fighting off the effects of the worst recession since the 1930's.

A few countries, particularly Japan, apparently have entered a prolonged period of growth rates lower than they might wish, but other countries, the U.S. among them, have boosted their growth rates back toward higher long-term averages. The U.S. growth rate in 1977 was about 5 percent.

A molasses-like growth rate—slow-moving and weighing heavily on the hands of commerce—is reflected in its parts:

- Investments are sluggish, largely because potential investors have little incentive to spend their cash, and the immediate future isn't bright.
- Unemployment remains a thorny problem in many countries. None of the major developed countries has succeeded in significantly lowering unemployment rates since the recession.
- World agricultural commodities in 1977 were generally priced below levels of 1976, due to large supplies. Farm prices for major commodities in most countries were also low.

[Based on "World Economy Facing Slower but Steady Growth," by A. Vellianitis-Fidas, Foreign Demand and Competition Division, in *World Agricultural Situation*, December 1977.]

# Shaping a New Food Policy

**A new U.S. food policy—how should it read? Carol Tucker Foreman, USDA Assistant Secretary, Food and Consumer Services, dealt with this question in a talk at the 1978 Food and Agricultural Outlook Conference. Here is a synopsis of her speech.**

Through most of history, the human struggle for food has been directed primarily at simply getting enough to eat.

As a result, Government food policies have focused mainly on increased production, better means of food preservation, and improved systems for the transportation and distribution of food.

Today, the U.S. has achieved much success in these areas; yet, out of these very successes, new and troubling issues have arisen.

For instance, domestic production is now so large that we are able to meet our own food needs and those of a large portion of the rest of the world, while using food sales to help balance trade deficits. Yet, this has meant recurring surpluses and has caused hardships for producers.

**Too much vs. too little.** Moreover, although millions of Americans need Federal assistance to get enough to eat, millions more have nutritional problems from eating too much.

The U.S. has been so successful in using chemicals to increase production, retard spoilage, and preserve foods that we must now be concerned with the health effects of chemicals themselves.

By the same token, the U.S. has become so dependent upon food processing and distribution systems that the farm value of production bears little relationship to final costs of food.

In addition, because domestic population growth is leveling off and urbanization is slowing, the rate of increase in domestic demand for food—which has soared in recent years—may be tapering.

**A new food policy.** The U.S. should give serious consideration to forging a new food policy, one that responds to the dilemmas facing us in a changing world. Secretary of Agriculture Bob Bergland recently called for the development of a new food policy based on human nutrition.

The goal of such a policy would be to make available an adequate supply of safe, nutritious food at stable, reasonable prices, while providing a fair return on investment to farmers, processors, and retailers. The new policy would also provide assistance to those at home and abroad who cannot afford a nutritious diet.

Using the framework of the Secretary's statement, Mrs. Foreman said, "I would like to give you my views about what a new food policy should look like."

**Major components.** Six elements must be considered:

▪ *Determination of nutritional needs.* A food policy should be based on a detailed assessment of what the nutritional needs of the people are. Determining these needs will require a commitment to increased human nutrition research.

A small program of nutrition research has been carried out in the U.S. since the 1870's, but we still do not have all the answers to some basic questions.

To produce an effective food policy, the U.S. must increase its knowledge of nutritional requirements, as well as determine what levels and types of production are necessary to meet these needs. This may require some adjustments in farm production. For example, how should we produce wheat and which kinds to insure people with adequate levels of B vitamins?

• *U.S. role in feeding the world.* In regard to the role the U.S. chooses in meeting international food and nutrition needs, the Government must determine what portion will be accomplished by trade, what portion through assistance, and how much additional production is necessary to meet those needs.

Although America's capacity for food production is unparalleled, the need to sell U.S. food abroad must not destroy the incentive of less developed nations to become more self-reliant in food production.

• *Stimulation of adequate production.* The third element of a basic food policy is to stimulate and sustain production at a level that meets domestic and international nutrition needs, as well as U.S. trade needs.

Government policies—through support prices, research, and regulation—have long encouraged certain kinds of production and marketing, and discouraged others. A new food policy must reassess which areas of agriculture should be supported and promoted, based on nutrition and trade objectives.

▪ *Reasonable food costs.* A new food policy must assure the availability of food at reasonable prices.

In past years, full production was sometimes seen as the answer to the problem of maintaining reasonable prices, but full production on the farm will not, by itself, guarantee moderate retail prices. One of the key elements in determining food prices is what happens to food after it leaves the farm.

Marketing costs new comprise 60 percent of the total food bill. If the U.S. is to have both reasonable levels of farm income and moderate prices for consumers, unnecessary costs must be discouraged.

Government transportation regulations are an obvious area where review and revision could lead to reduced costs. Inadequate competition, excessive advertising, and excessive packaging are others.

• *Safe and high-quality food.* In addition to strictly enforcing current laws, such as the Food and Drug Act, the Meat Inspection Act, and the Poultry Products Inspection Act, the Government must take on new roles in assuring that U.S. food is safe and of high quality.

For instance, in the area of food quality, the Government should address such questions as the construction and composition of processed foods. Industry is engaged in a constant effort to bring new technology to food processing, with the occasional side effect of producing ice cream that doesn't taste like ice cream, for example.

A new food policy must find better ways to assure consumers that the quality of new foods is as good as or better than the original product.

• *Domestic food assistance.* A new food policy must deal with those people who cannot afford an adequate diet. Current Government policy aims to supply food to the needy through a variety of plans, such as the Food Stamp, School Breakfast, and School Lunch programs, child nutrition, and the Women, Infants, Children (WIC) program.

President Carter proposes to eliminate the Food Stamp program in favor of a general cash assistance program. He assumes no appreciable loss of nutrition will result, and available studies seem to support that premise.

The institutional feeding program must be upgraded by placing greater emphasis on serving healthy, appetizing diets in attractive settings.

The WIC program has perhaps the greatest capacity to use good nutrition to improve health and break the cycle of poor childhood development that is often associated with poor nutrition. It provides high-quality protein, iron, calcium, and vitamins A and C to pregnant women, nursing mothers, and young children. Because WIC operates through health care programs, it integrates health care, nutrition education, and food assistance.

# The Lake States: Heart of America's Dairyland

Although Wisconsin's tasty brew may have made Milwaukee famous, the true symbol of the Lake States—at least from an agricultural standpoint—is the dairy cow.

The three Lake States—Michigan, Minnesota, and Wisconsin—produce more milk than any other region of the country. In 1976, they provided more than a fourth of the Nation's total. Production that year was up nearly 6 percent from the year before, topped only slightly by the Pacific States.

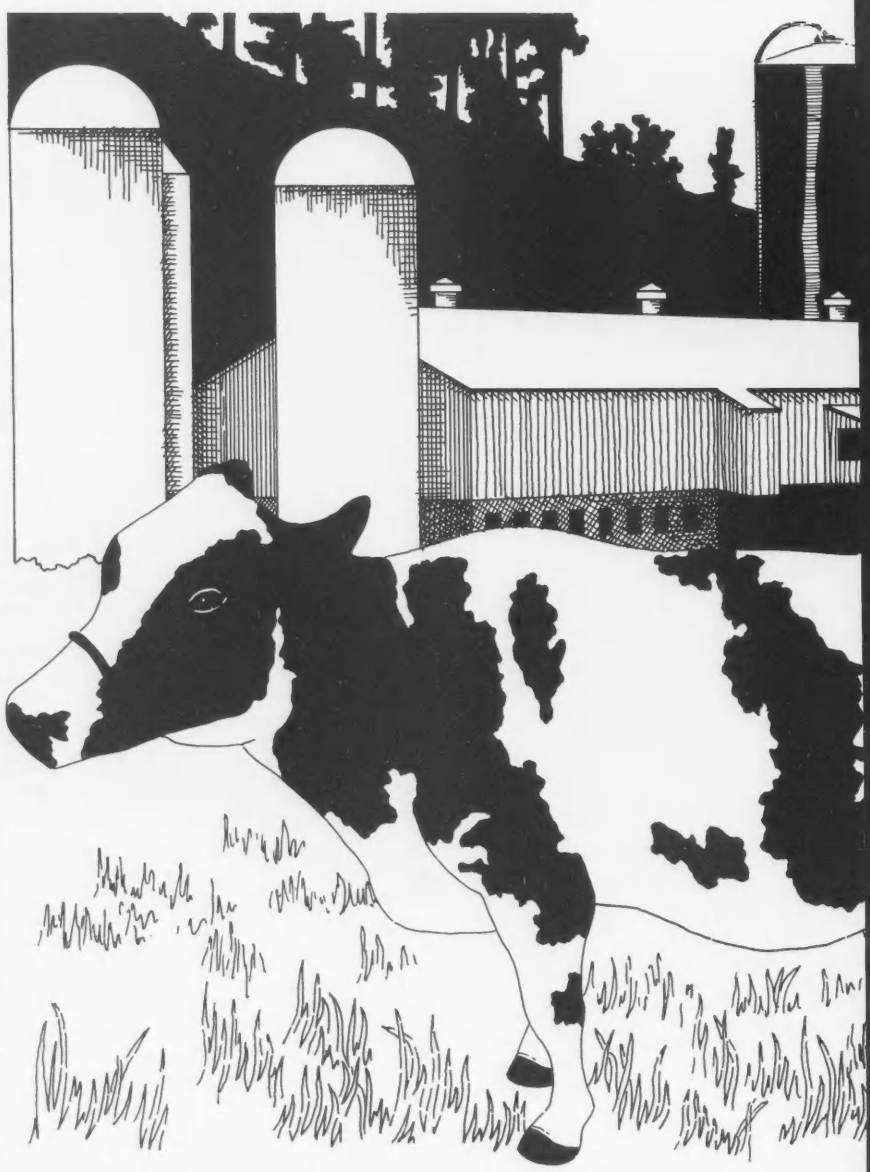
Based on the value of cash receipts, Wisconsin was the leading dairy State in 1976, followed by Minnesota in fourth place, and Michigan in sixth.

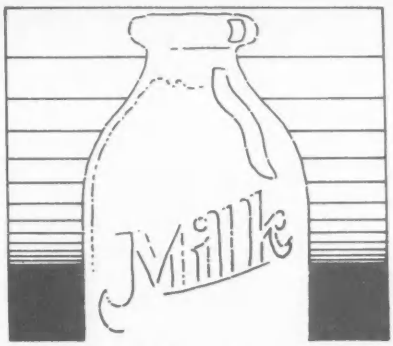
**Profitable livestock industry.** But dairying is only part of the area's lucrative livestock industry—cattle and calves, hogs, and turkeys are also important. In fact, Minnesota is the world's largest producer of turkeys and turkey meat products.

In 1976, cash receipts for livestock products in the Lake States averaged 64 percent of the region's total receipts—ranging from 48 percent in Michigan to a mighty 82 percent in Wisconsin.

Of the total livestock receipts, more than half were for dairy products. In that year, dairy products were the number one cash commodity in all three Lake States; cattle and calves and hogs were among the top five money-making products in each State.

**Net farm income.** The thriving livestock business (Wisconsin and Minnesota both ranked among the top 10 States for cash receipts for livestock products in 1976) helped Lake States' farmers to net $2.3 billion in farm income in 1976—about 11 percent of the $21.9 billion that all farmers earned that year.





And with 11 percent of the Nation's farms and about 5 percent of the land in farms (1974 Census of Agriculture), the region produced $8.6 billion worth of farm goods in 1976, about 9 percent of the total national farm output of $94 billion.

Thanks to excellent transportation facilities, adequate rainfall (only about 4 percent of the region's farms are irrigated—2 percent of the Nation's total), and the proximity to major markets, all of the Lake States have earned the reputation of being important farm States.

**States' rank.** In 1976—based on the value of cash receipts—Minnesota placed 5th in the Nation with nearly $4 billion of farm marketings; Wisconsin, 9th with about $3 billion; and Michigan, 21st, with nearly $2 billion.

Michigan's rank in the national standing might be higher if the State weren't hampered by a unique set of circumstances. For one thing, numerous nonfarm job opportunities have lured many Wolverine State farmers into part-time employment. In fact, nearly half of them work 200 days or more off the farm each year.

This trend toward part-time farming helps to explain why crop production has strengthened its position relative to livestock production in the State over the past 16 years—part-time farmers can more conveniently handle crop enterprises than livestock.

**Industrial vs. farm wage rates.** Another problem Michigan farmers face is the fact that the State's industrial wage rates—the highest in the Nation, except for Alaska—are considerably more than their farm wage rates. The difference between the two contributes to the shortage of farm labor.

For instance, in 1975, the average wage paid to production workers in manufacturing was about $6.15 per hour in Michigan, compared with only $2.47 per hour for hired farmworkers.

Such wage discrepancies put Michigan farmers at a competitive disadvantage with producers in other States, especially those involved in commodities that require a substantial labor input. As a result, recent emphasis has been placed on highly mechanized products, such as field crops and certain fruits and vegetables.

**Farming still big business.** Despite problems with employment and wages, agriculture remains the State's third most important industry—having just been inched out of second place by recreation and tourism—and Michigan farmers produce a significant share of the total U.S. output for a number of commodities.

The Wolverine State ranked among the leading 10 States for cash receipts for 6 of the 25 top commodities in 1976: dairy products and greenhouse and nursery, sixth place; tomatoes and grapes, seventh; sugarbeets, eighth; and corn, ninth.

**Other honors.** The other two Lake States received similar honors, including:

- Minnesota—first in the Nation for turkeys; sugarbeets, second; dairy products, hogs, and barley, fourth; corn and wheat, sixth; soybeans, seventh; hay, eighth; and cattle and calves and potatoes, tenth.
- Wisconsin—dairy products, first; forest products, third; potatoes, sixth; lettuce, ninth; and turkeys, tenth.

## Wisconsin's Cheesemaking Heritage

In the heart of America's dairyland lies "Cheese Country U.S.A."—the State of Wisconsin. Its approximately 400 cheese factories produce over a billion pounds of cheese each year, nearly 40 percent of the Nation's total.

Although some 200 varieties are produced in the State—each reflecting a different cheesemaker's art—a couple dozen or so have made the State famous. These include Cheddar, Muenster, Gouda, Swiss, and mozzarella, to name a few.

Wisconsin's role as the cheesemaking capital dates back to the early settlement of the State. "Yankees" from New England and immigrants from northern Europe brought with them a knowledge of dairy farming and the age-old secrets of cheesemaking.

Germans, Scandinavians, Dutch, Swiss, French, and Italians—each group contributed to the development of the colorful and diversified cheese industry of Wisconsin.

The Swiss were one of the first foreign groups to develop their own specialized type of cheese—known as Swiss in this country and Emmenthaler in Switzerland. The Swiss settled in Green County, where Nick Gerber established the first Swiss cheese factory in 1869.

The Italians also developed a flourishing cheese industry in Wisconsin. In the manufacture of some types of Italian cheese, such as provolone and mozzarella, the curd is dipped in hot water and then stretched and pulled like taffy before being molded into traditional sizes and shapes.

The French introduced such delectable dessert cheese as Roquefort—with its delicate veins of blue mold—and Camembert. The Scandinavians contributed Bondost-Primost and Noekkelost; the Germans, Muenster and Limburger; and the Dutch, Edam and Gouda. Brick, Colby, and cream cheeses are a few American inventions.

Wisconsin's early cheesemakers encountered a number of problems, including a lack of uniformity and quality in their product. Because they didn't stamp or brand their cheese, some unscrupulous dealers were able to market Wisconsin cheese under fictitious grades, such as "New York Factory," "Hamburg," and "Excelsior, New York."

The formation of the Wisconsin Dairyman's Association in 1872, by seven prominent Wisconsin dairy leaders, helped solve some of these problems. For one thing, the association sponsored the establishment of a Board of Trade at Watertown, which provided for a more orderly marketing of the State's cheese. It also secured a 60-percent reduction in freight rates.

The number of cheese factories increased steadily in the State, reaching its peak in 1922 with a whopping 2,800. Since then the total has decreased—there were only 413 factories in 1973—but the volume handled has multiplied as modern transportation extended the distance from which milk could be hauled.

[Based on "A World of Wisconsin Cheese," published by Mars' Cheese Castle, Kenosha, Wisconsin.]

Besides the production of the big money-making crops, each Lake State boasts a number of specialty items. Ever wonder where that rich creamery butter comes from? Probably Minnesota.

The North Star State leads the Nation in the manufacture of butter and nonfat dry milk products. It is the second most important cheese-producing State—after Wisconsin—and its cheese plants are among the largest and most efficient in the industry.

**Other specialties.** Other Minnesota specialties include wild rice, honey, ornamentals, and a number of seeds—Timothy, sunflower, flax, and red clover.

As an accompaniment to its famous cheese, Wisconsin produces more than 100 varieties of sausage—everything from bratwurst to bologna. Recipes for the many fine sausages have been handed down from generation to generation by expert *wurstmachers* who immigrated to the Badger State from Europe.

Wisconsin is also well known for its cranberries, traditionally ranking as the Nation's number one producer of this unique fruit. In 1977, however, the Badger State slipped to second place in cranberry production, due to 1976 drought conditions that caused limited water supplies necessary for flooding the cranberry bogs. (Flooding the bogs with water protects the crop from frosts—water cools off more slowly than air, making it less likely to fall below freezing on a cold night.)

**Number one again.** But things are looking up. According to State agriculturalists, Wisconsin can expect to be back in the top position this year, weather providing.

Maple syrup, peppermint, and Christmas trees are a few other Badger State specialty crops.

In addition to red clover seed, spearmint, and maple syrup, Michigan is famous for its fruits and vegetables. Tart cherries, blueberries, apples, sweet cherries, grapes, plums, strawberries, cantaloupes, and peaches are popular fruit crops. (The survival of fresh market peaches and strawberries in Michigan will likely depend on the success of mechanical harvesting, since labor costs are so high there.)

**Numerous vegetables.** Important vegetable crops include dry beans, asparagus, celery, carrots, cauliflower, peas, green peppers, sweet corn, cabbage, onions, and processing cucumbers, snap beans, and tomatoes.

The Wolverine State usually ranks among the top six producers of fresh vegetables—California, Florida, Texas, Arizona, and New York are the others—and is also important for its processed vegetables.

Michigan has long been the most important pickle producer in the country (the pickle industry has been one of the more rapidly growing processing vegetable enterprises), although it is now being strongly challenged by North Carolina.

Like the neighboring Northeast States, Lake States' farms are small compared with the rest of the country, averaging only 206 acres in 1974—the national average that year was 417 acres. Acreage per farm was smallest in Michigan and largest in Minnesota.

**Regional trends.** In line with a nationwide trend, the number of Lake States' farms has decreased since 1935, while the average size has increased. Other agricultural patterns have included a sharp increase in yields, greater mechanization, more use of fertilizer, increased specialization, and better educated farmers.

Agriculture will continue to play an important role in the Lake States' economy, with Michigan, Minnesota, and Wisconsin farmers doing a good job of competing with other parts of the country.

[Based on special material from Thomas Frey, Natural Resource Economics Division; Donald Durost, National Economic Analysis Division; Charles Shaw and Charles Porter, Commodity Economics Division; John Sperbeck, University of Minnesota, Jerry McGee, University of Wisconsin, and Eldon Fredericks, Michigan State University, all with the Cooperative Extension Service; Bob Swanson, State of Minnesota, Department of Agriculture; and Ed Parminter, State of Wisconsin, Department of Agriculture.]

## Educating Rural Women: Another Minnesota First

Minnesota—the great North Star State—is the home of many agricultural firsts. The first State Grange, the Non-Partisan League, the Farmer-Labor Party, and the Farmers' Institutes all got their starts in the State. Minnesota was also one of the first States to realize the importance of educating rural women.

Established in 1885, the Minnesota Farmers' Institutes—forerunners of the present Agricultural Extension Service—were daylong meetings held throughout the State. They were conducted by outstanding farmers, Agricultural Experiment Station researchers, and university faculty members.

So many farmers' wives accompanied their husbands to these institute sessions that the directors provided special talks on subjects related to the home—they even added a woman to the staff in 1889. That first year her topics included "food habits" and "bread baking."

In 1900, two women enrolled in the first 4-year college course in "domestic science" at the University of Minnesota (UM). One of the graduates, Mary Matthews, later became head of the home economics department of Purdue University.

Home economists with the Farmers' Institute broadened their services around the turn of the century. In addition to 1- and 2-day sessions, they began to offer a series of 5-day short courses throughout the State.

They also persuaded railroad officials to provide a special train that stopped for a few hours at scheduled towns so that UM instructors could give talks and exhibit modern home equipment at the stops.

In the early 1920's, extension began to rely on well-trained local homemakers to conduct some of its programs, making it possible to reach many more families than when a specialist or home agent conducted all sessions.

Women's committees of the Farm Bureaus cooperated in organizing extension groups within counties and in planning programs needed by local homemakers. Through these efforts, farmwomen were drawn into partnership with the home demonstration agents and helped guide what projects should be undertaken.

Minnesota was unique in having a woman poultry specialist, Cora Cooke, who worked with farmwomen on poultry problems—raising the flock was often the wife's responsibility.

Other important topics during the 1920's were improvement of housing, household equipment, refinishing furniture, child welfare, and family relationships.

During the Great Depression, the slogan "Farm First for Family Food" guided home economists in such projects as low-cost foods, clothing repair, family budgeting, and economical clothing patterns.

Because depression-tightened budgets curtailed travel, State specialists depended heavily on news releases and the new medium—radio—to get their message to the people.

In 1940, a mattress and comforter-making program to use surplus cotton was carried out in Minnesota under the direction of the Emergency Relief Administration. State leader Julia Newton spent more than a year in Washington, D.C., developing an educational program for farm families in the field of credit. The spread of rural electrification meant new interest in home remodeling and household equipment.

Defense concerns keynoted the World War II years. The Emergency War Food Program employed six war food assistants who worked in nine counties, conducting classes in food production and preservation. More money in the economy meant that many homemakers wanted information on home improvements, clothing construction, and civic responsibilities, and State specialists and home agents worked to answer these needs.

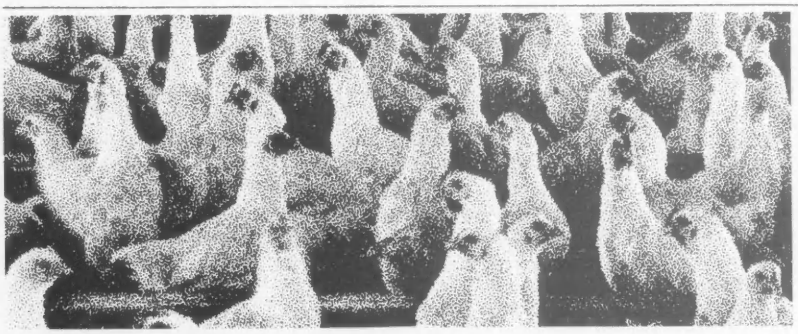
Meat-rationing and sugar-saving meetings were conducted throughout the State in response to homemakers' demands. By 1950, the home economics staff had mushroomed to include 58 home agents and 14 State staffers. In keeping with the emphasis on local involvement, the early 1950's saw the beginnings of home councils made up of community representatives who advise the home economist on the area's needs.

Today, home economics research deals with such diverse topics as alternate sources of protein, aging and how the elderly fit into current family pictures, fabric flammability, safety in food preservation, welfare budgets, the nutritional deficiencies of teenagers' diets, television and its repercussions in child raising and family life, and the concerns and lifestyles of childless couples.

[Based on the article, "Research Results for the Home," by Deidre Nagy, in the spring 1975 issue of *Minnesota Science*.]

Commodity Profile:

# Bigger and Better Birds



Broiler producers are turning out larger birds from increasingly complex operations.

The changes are part of a new era in broiler production—an industry only about a half-century old—wrought by ballooning feed prices since 1973.

Feed takes better than 70 percent of the costs at a typical broiler operation; a decade ago, it took 65 percent. The feed bill for broilers, according to an industry estimate, was over $2.2 billion in 1977. That amount takes in 125 million bushels of soybeans — the crops from 45,000 average-size soybean farms—and over 350 million bushels of corn—the output of perhaps 30,000 Midwest corn farms. Altogether, broiler feed accounts for a fourth of the 75 million tons of primary feed manufactured in the U.S.

**The ups and downs of feed.** As soybeans and feed grain prices ebb and flow, the effect on broiler costs can be enormous. It's estimated, for example, that when the price of a bushel of corn changes by 10 cents, or the price of a ton of soybean meal shifts by $10, the cost of broiler production takes a turn of about a third of a cent per pound. For the largest firms, such shifts in either corn or soybean meal can make annual production costs bob and weave by $1 million or more.

Producers are trying to shave those peaks by buying feed more carefully than they used to. So, in the new era, the timing and strategy of feed purchasing can make as much of a difference in profitability as does skill in production.

**To build a bigger bird.** But traditional skills are still very important, and are leading to ever-larger chickens. About 25 years ago, a 3.5-pound broiler could be produced in about 12-14 weeks, converting about 4 pounds of feed into a pound of live chicken. Today, an efficient producer can turn out that 3.5-pounder in half the time, with a conversion ratio of 2.1 or less.

The average broiler weight last year was 3.8 pounds, compared with 3.6 pounds 10 years ago, and 3.4 pounds 20 years ago. The effort currently is to spread higher costs over more pounds; some producers are seeking to profitably raise and market a 4.5-pound, average-weight broiler.

**Vertical integration.** Meanwhile, the broiler business is becoming more complicated, as producers expand their operations. Not only are flocks becoming larger, expanding to meet demand, but the firms involved are handling nearly all aspects of feed production, as well as hatching, raising, processing, and selling chickens. Combining these differing aspects of the industry is called vertical integration, and, like other efforts to cut costs, its aim is to improve profitability.

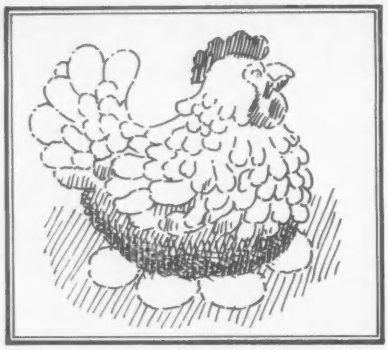
Along these lines, broiler production has consolidated. In 1959, according to the 1974 Census of Agriculture, 1.4 billion broilers were turned out by 42,000 farms. In 1974, economists report, about 30,000 farms produced 2.4 billion broilers.

The number of federally inspected processing plants has also declined. There were 288 plants in 1962, but only 233 in 1976.

**Branded broilers.** Another twist in the broiler industry is the trend toward brand-name chickens. Just a few years ago, most chicken in the supermarket, whether fresh or frozen, was sold under the store name, with little difference perceived from one chicken to another. Currently, the industry estimates, about 40 percent of the broilers in the meat case can be brand identified, and most brand names are backed up by extensive advertising campaigns. Brand identification and advertising have helped make chicken more popular than ever, with consumption last year topping 44 pounds per capita.

Consumption could rise even more if promotion of new chicken products is successful. Among these foods are chicken dogs, to compete with frankfurters; frozen, ready-to-heat and serve chicken pieces, for supermarkets to compete with take-out restaurants; and luncheon meats made from ground chicken.

**History-making expansion.** Despite these marketing thrusts, sales may still have to strain to keep up with production. Broiler output is currently into the longest expansionary phase in its history. Output has climbed fairly



steadily since August 1975, and growth could continue through the first half of this year. Economists expect output to rise 5-7 percent over year-earlier levels.

Expansion can't go on forever, though, if healthy profits are to be maintained. Already, there's downward pressure on farm prices for chicken, only partially offset by current low feed prices.

And, problems are facing the rest of the poultry industry, too. Egg producers, particularly, have to be wary of overexpansion. Despite lower production during much of last year, prices were relatively weak. If production heads up in 1978, as it now appears likely, farmers could wind up in a severe cost-price squeeze.

**Skidding egg consumption.** Egg consumption, meanwhile, is on the wane for a variety of reasons, mostly connected with changing eating habits and allegations that the cholesterol content of eggs may not be good for your health. In 1971, we ate an average 314 eggs apiece, including 36 processed eggs, such as dried eggs used in cake mixes. But by last year, we had cut back to only 271 eggs apiece, including 36 processed.

Turkeys are becoming more popular, though, and production reflects demand. With increased demand and cheap feed, farmers may raise production in the first half of 1978 by about 10 percent over 1977.

And, like with broilers, turkey producers continually look for new markets. Among the latest additions are turkey ham, turkey pastrami, and ground turkey added to red meat product, such as hot dogs.

[Based on industry reports and special materials provided by William E. Cathcart, Commodity Economics Division.]

## COMMODITY PROFILE: POULTRY

| | |
|---|---|
| **Production:** | **Broilers: (est.) 3.3 billion, 1977; 3 percent more than 1976** |
| | **Turkeys: (est.) 138 million, 1977; down 2 million from 1976** |
| | **Eggs: (est.) 5.4 billion dozen, 1977; same as 1976** |
| **Farm value:** | **Broilers: $3 billion, 1977; up slightly from 1976** |
| | **Turkeys: $875 million, 1977; up from $824 million, 1976** |
| | **Eggs: (est.) $2.96 billion, 1977; $300 million below 1976** |
| **Foreign trade:** | **Broilers: Record 1976 shipments, 287 million pounds; record may be broken in 1977** |
| | **Turkeys: Record 65 million shipped in 1976; exports down a fifth in 1977** |
| | **Eggs: 37.4 million dozen total (shell equivalent) in 1976, including 7.6 million dozen processed; 1977 output may nearly double that** |
| **Largest producing States:** | **Arkansas, Georgia, Alabama** |
| **Trends:** | **Broiler and turkey production will probably continue to expand as demand grows, but egg consumption might skid more.** |

# Economic Trends

[1] Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates. [2] Average annual quantities of farm food products purchased by urban wage earner and clericalworker households (including those of single workers living alone) in 1959-61—estimated monthly. [3] Annual and quarterly data are on 50-State basis. [4] Annual rates seasonally adjusted third quarter. [5] Seasonally adjusted. [6] As of March 1, 1967. [7] As of February 1, 1976. [8] As of Novmember 1, 1976. [9] As of November 1, 1977.

Source: U.S. Dept. of Agriculture (Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Monthly Retail Trade Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale and Consumer Price Index).

| ITEM | UNIT OR BASE PERIOD | 1967 | 1976 Year | 1976 Nov. | 1977 Sept. | 1977 Oct. | 1977 Nov. |
|---|---|---|---|---|---|---|---|
| **Prices:** | | | | | | | |
| Prices received by farmers | 1967=100 | — | 186 | 173 | 174 | 178 | 179 |
| Crops | 1967=100 | — | 197 | 186 | 171 | 178 | 185 |
| Livestock and products | 1967=100 | — | 177 | 162 | 177 | 177 | 174 |
| Prices paid, interest, taxes, and wage rates | 1967=100 | — | 192 | 192 | 201 | 201 | 202 |
| Prices paid (living and production) | 1967=100 | — | 188 | 187 | 196 | 196 | 197 |
| Production items | 1967=100 | — | 193 | 191 | 197 | 198 | 199 |
| Ratio [1] | 1967=100 | — | 97 | 90 | 87 | 89 | 89 |
| Wholesale prices, all commodities | 1967=100 | — | 187.1 | 185.6 | 195.3 | 196.3 | 197.0 |
| Industrial commodities | 1967=100 | — | 187.4 | 187.1 | 197.8 | 199.1 | 199.2 |
| Farm products | 1967=100 | — | 191.6 | 183.6 | 181.9 | 182.4 | 185.5 |
| Processed foods and feeds | 1967=100 | — | 179.0 | 174.8 | 184.2 | 184.5 | 186.7 |
| Consumer price index, all items | 1967=100 | — | 170.5 | 173.8 | 184.0 | 184.5 | 185.4 |
| Food | 1967=100 | — | 180.8 | 181.1 | 194.5 | 194.4 | 195.6 |
| **Farm Food Market Basket:** [2] | | | | | | | |
| Retail cost | 1967=100 | — | 175.4 | 173.1 | 179.7 | 179.2 | 180.9 |
| Farm value | 1967=100 | — | 178.8 | 168.2 | 178.0 | 180.0 | 179.7 |
| Farm-retail spread | 1967=100 | — | 173.2 | 176.2 | 180.8 | 178.7 | 181.7 |
| Farmers' share of retail cost | Percent | — | 40 | 38 | 38 | 39 | 39 |
| **Farm Income:** [3] | | | | | | | |
| Volume of farm marketings | 1967=100 | — | 121 | 162 | 128 | 167 | 156 |
| Cash receipts from farm marketings | Million dollars | 42,817 | 94,326 | 9,999 | 7,946 | 10,048 | 10,200 |
| Crops | Million dollars | 18,434 | 47,937 | 6,166 | 3,938 | 5,608 | 6,600 |
| Livestock and products | Million dollars | 24,383 | 46,389 | 3,833 | 4,008 | 4,440 | 4,200 |
| Realized gross income [4] | Billion dollars | 49.9 | 103.6 | — | 98.7 | — | — |
| Farm production expenses [4] | Billion dollars | 38.2 | 81.7 | — | 82.5 | — | — |
| Realized net income [4] | Billion dollars | 11.7 | 21.9 | — | 16.2 | — | — |
| **Agricultural Trade:** | | | | | | | |
| Agricultural exports | Million dollars | 6,380 | 22,996 | 2,121 | 1,734 | 1,705 | 2,082 |
| Agricultural imports | Million dollars | 4,452 | 10,992 | 972 | 1,016 | 855 | 815 |
| **Land Values:** | | | | | | | |
| Average value per acre | Dollars | [6] 168 | [7] 388 | [8] 428 | — | — | [9] 474 |
| Total value of farm real estate | Billion dollars | [6] 182 | [7] 417 | [8] 460 | — | — | [9] 508 |
| **Gross National Product:** [4] | Billion dollars | 796.3 | 1,706.5 | — | 1,915.9 | — | — |
| Consumption | Billion dollars | 490.4 | 1,094.0 | — | 1,218.9 | — | — |
| Investment | Billion dollars | 120.8 | 243.3 | — | 303.6 | — | — |
| Government expenditures | Billion dollars | 180.2 | 361.4 | — | 400.9 | — | — |
| Net exports | Billion dollars | 4.9 | 7.8 | — | -7.5 | — | — |
| **Income and Spending:** [5] | | | | | | | |
| Personal income, annual rate | Billion dollars | 626.6 | 1,382.7 | 1,432.1 | 1,561.3 | 1,582.6 | 1,597.4 |
| Total retail sales, monthly rate | Million dollars | 24,413 | 53,542 | 54,822 | 59,014 | 60,635 | 61,572 |
| Retail sales of food group, monthly rate | Million dollars | 5,781 | 12,162 | 12,260 | 13,099 | 13,196 | 13,578 |
| **Employment and Wages:** [5] | | | | | | | |
| Total civilian employment | Millions | 74.4 | 87.5 | 88.2 | 91.1 | 91.2 | 92.2 |
| Agricultural | Millions | 3.8 | 3.3 | 3.2 | 3.2 | 3.3 | 3.4 |
| Rate of unemployment | Percent | 3.8 | 7.7 | 8.0 | 6.9 | 7.0 | 6.9 |
| Workweek in manufacturing | Hours | 40.6 | 40.0 | 40.1 | 40.3 | 40.4 | 40.5 |
| Hourly earnings in manufacturing, unadjusted | Dollars | 2.83 | 5.19 | 5.34 | 5.75 | 5.78 | 5.81 |
| **Industrial Production:** [5] | 1967=100 | — | 129.8 | 131.5 | 138.6 | 139.0 | 139.7 |
| **Manufacturers' Shipments and Inventories:** [5] | | | | | | | |
| Total shipments, monthly rate | Million dollars | 46,487 | 98,168 | 99,919 | 111,921 | 112,745 | — |
| Total inventories, book value end of month | Million dollars | 84,527 | 166,587 | 167,114 | 176,164 | 176,829 | — |
| Total new orders, monthly rate | Million dollars | 47,062 | 98,497 | 100,784 | 112,441 | 116,303 | — |

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